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10/801,310	03/16/2004	Chandra Sekhar Desu	03-2326	1980
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LSI CORPORATION			DINH, PAUL	
1621 BARBER LANE				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/801,310	Applicant(s) DESU ET AL.	
	Examiner Paul Dinh	Art Unit 2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 13-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is a response to the applicant election filed on 10/12/07. The examiner acknowledges:

The Applicants election of group I, claims 1-12, with traverse; thus claims 13-20 are non-elected.

Claims 1-20 are pending.

Restriction Requirement Issue

Applicant's election of group I for prosecution with traverse is acknowledged. The relevant grounds for traverse are:

1. The invention must be independent or distinct; and
2. There must be a serious burden on the examiner, *even if there are independent and distinct invention present.*

The traverse has been fully considered, and is not found persuasive because:

Due to different subject areas in the claimed groups, proper search and proper examination of the entire application cannot be made without serious burden on the examiner.

The issue of serious burden on the examiner is one part of restriction requirements; the Other issue of restriction requirements that made the restriction required is because the application has 3 claimed groups that distinctly involve 3 different subject areas. Specifically group I (claims 1-12) drawn to a graphical profile map for ICs on a substrate with intelligent agent/script, without displaying the die placement information, displaying the shot placement and displaying the IC property information; group II (claims 13-17) drawn to a method of creating a graphical profile map for ICs on a substrate with displaying the die placement information, displaying the shot placement and displaying the IC property information, without grid, intelligent agent/script, and group 3 (claims 18-20) drawn to a method of creating a graphical yield profile map for ICs on a substrate with assembling and displaying die/shot grid information. Different subject matter of these groups required searches in different areas.

As the claims presented, the prior art applicable to one invention would not likely be applicable to another invention and the inventions require a different field of search (for

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example, searching different classes/subclasses or electronic resources, or employing different search queries)

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for other groups, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

The restriction requirement has been fully considered, fully reconsidered, **the requirement is still deemed proper and is therefore made FINAL**. The elected claims 1-12 will be examined in this office action; the non-elected claims are withdrawn from consideration pursuant to 37 CFR 1.142(b), as being nonelected.

The applicants are advised to cancel the non-elected claims in the next communication, the restriction is FINAL.

Claim Objection

Claim 1 is objected to because semicolon (;) should be use to separate limitation instead of commas (,).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

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Claim 1 and dependencies are rejected because the limitation “where the contours are not limited to either of the die placement boundaries and the shot placement boundaries” in claim 1 is not clearly described in the disclosure.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 and dependencies are rejected because under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements/steps, such omission amounting to a gap between the elements. See MPEP § 2172.01; the limitation “IC property information contours, where the contours are not limited to either of the die placement boundaries and the shot placement boundaries” in claim 1 is incomplete without essential elements/steps to achieve the function of where the contours are not limited to either of the die placement boundaries and the shot placement boundaries. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim 1 and dependencies are rejected because it is not clear what is meant by IC property information contours in claim 1.

Claim 1 and dependencies are rejected because “the contours are not limited to either of the die placement boundaries and the shot placement boundaries” in claim 1 is unclear and incomplete as to (a) what makes the contours are not limited to either of the die placement boundaries and the shot placement boundaries and (b) not limited in what sense.

Claim 2 is rejected because “historical IC property information is available/not available” is unclear and incomplete as to what is meant by historical IC property information and how the availability is determined.

Claim 3 is rejected because “modification algorithms and smoothing algorithms” is unclear and incomplete as to modifying what and smoothing what.

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Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim 1 and dependencies are rejected because “either of the die placement boundaries and the shot placement boundaries” in claim 1 is an unclear claim structure regarding what is meant by this limitation; normal English using “either A or B”, not “either A and B”.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following rejections with the claims given broadest reasonable interpretation and insofar the limitations are best understood.

1. Claims 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by the prior art of record Kitamura (USP 20050146714)

(Claim 1) Die placement boundaries and shot placement boundaries for the ICs on the substrate (one or more of fig 64, 71-74, 77-78, 87-88, 109), and IC property information contours, where the contours are not limited to either of the die placement boundaries and the shot placement boundaries (one or more of fig 64, 71-74, 77-78, 87-88, 109).

(Claims 2-3) wherein the IC property information is provided from a database of historical integrated circuit property information when a desired amount of historical IC property information is available, and when the desired amount of historical IC property information is not available, the IC property information is provided by programmable algorithms (one or more

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of fig 35-38, 77, 109); wherein the programmable algorithms comprise modification algorithms and smoothing algorithms (one or more of fig 35-38, 77, 109) and the algorithms are implemented **by at least one of** manually by an engineer, automatedly by an intelligent agent, and automatedly by an intelligent script (this feature is inherent, if not manual then automatic and vice versa, if not automatic then manual).

(Claims 4-12) wherein the graphical profile map is stored as an image file on a computer readable media (fig 1, 17, 114, 116, 124); wherein the IC property information comprises (composite) IC property information for: all processes that the ICs have undergone (fig 11, 25-27, 114, 116, 136); for a selectable single process that the ICs have undergone (par 0346, 1037, fig 11, 117, 136); a selectable subset of processes that the ICs have undergone (fig 25-27, 114, 116, 136); wherein the IC property information: is presented by representing different IC property information value ranges with different colors (par 0213, 0842); comprises yield information (one or more of fig 11, 16-17, 25-26, 136); wherein the shot/dies placement boundaries (one or more of fig 64, 71-74, 77-78, 87-88, 109) comprise a graphical shot/die grid representation; further comprising a graphical indication depicting an offset from a center of the substrate to a center of a closest unit of the shot placement boundaries (one or more of fig 76, 24, 58, 60, 69-72).

2. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by the prior art of record Tsukamoto (USP 6809802)

Die placement boundaries and shot placement boundaries for the ICs on the substrate (fig 1, 4, 6-7), and IC property information contours, where the contours are not limited to either of the die placement boundaries and the shot placement (fig 1, 4, 6-7)

3. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by the prior art of record Leroux (US pub. 2006/0033917)

Die placement boundaries and shot placement boundaries for the ICs on the substrate (fig 2-3, 5-6), and IC property information contours, where the contours are not limited to either of the die placement boundaries and the shot placement (fig 2-3, 5-6)

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4. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by the prior art of record Leroux (US pub. 2005/0190349)

Die placement boundaries and shot placement boundaries for the ICs on the substrate (fig 4-5), and IC property information contours, where the contours are not limited to either of the die placement boundaries and the shot placement (fig 4-5)

5. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by the prior art of record Kikuchi (US pub 2004/0126004)

Die placement boundaries and shot placement boundaries for the ICs on the substrate (fig 7, 13-14, 15-16), and IC property information contours, where the contours are not limited to either of the die placement boundaries and the shot placement (fig 4-5)

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Dinh whose telephone number is 571-272-1890. If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Jack Chiang can be reached on 571-272-7483. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Paul Dinh

Primary Examiner

